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Angel Palacios		VU, BAI D
Mendez Alvaro 77		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
	10/599,384	PALACIOS, ANGEL
Office Action Summary	Examiner	Art Unit	
	Bai D. Vu	2165	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>27 September 2006</u>.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1,2,4,5,8-16,22-28,32 and 33</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1,2,4,5,8-16,22-28,32 and 33</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☒ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>27 September 2006</u> is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1.   Claims 1, 2, 4, 5, 8-16, 22-28, 32 and 33 are pending in this Office Action.

Oath/Declaration

2.   The applicant's oath/declaration has been reviewed by the examiner and is found

to conform to the requirements prescribed in **37 C.F.R. 1.63**.

Priority

3.   As required by M.P.E.P. 201.14(c), acknowledgement is made of applicant's

claim for priority based on Foreign Application SPAIN P200400776 filed on March 30,

2004.

Drawings

4.   A descriptive textual label for each numbered element in these figures would be

needed to fully and better understand these figures without substantial analysis of the

detailed specification. Any structural detail that is of sufficient importance to be

described should be shown in the drawing. Optionally, applicant may wish to include a

table next to the present figure to fulfill this requirement. See 37 CFR 1.83. 37 CFR

1.84(n)(o) is recited below:

> *(n) Symbols. Graphical drawing symbols may be used for conventional elements when*
>
> *appropriate. The elements for which such symbols and labeled representations are used must be adequately*
>
> *identified in the specification. Known devices should be illustrated by symbols which have a universally*
>
> *recognized conventional meaning and are generally accepted in the art. Other symbols which are not universally*

recognized may be used, subject to approval by the Office, if they are not likely to be confused with existing

conventional symbols, and if they are readily identifiable.

(o) Legends. Suitable descriptive legends may be used, or may be required by the Examiner,

where necessary for understanding of the drawing, subject to approval by the Office. They should contain

as few words as possible."

The drawings are objected to because some elements or boxes in Figures 2 and

4 have no labeled. Thus, these elements do not give a viewer to fully understand

without substantial analysis of detailed specification.

Claim Objections

5.   Claims 2, 4, 5, 8-14, 16 and 22-28 are objected to because of the following

informalities:

In claims 2, 4, 5 and 8-14, the phrase "*A system*" should be replaced by "*The*

system".

In claims 16 and 22-28, the phrase "*A method*" should be replaced by "*The*

method".

Appropriate correction is required.

Specification

6.   The specification is objected to as failing to provide proper antecedent basis for

the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction

of the following is required:

Claim 33 recites limitation "*computer readable medium*". The specification fails to

explicitly provide definitions and/or limitations for "*computer-readable medium*", thus the

phrase "*computer-readable medium*" is interpreted as a medium not included form of

energy.

Claim Rejections - 35 USC § 101

7.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

8.   **Claims 1-14 and 32** are rejected under 35 U.S.C. 101 because the claimed

invention is directed to non-statutory subject matter.

As per **claims 1-14** are a system claims and **claim 32** is a computer program

claim; the claims lack the necessary physical articles or objects to constitute a machine

or a manufacture within the meaning of 35 USC 101. They are clearly not a series of

steps or acts to be a process nor are they a combination of chemical compounds to be

a composition of matter. As such, they fail to fall within a statutory category. They are, at

best, functional descriptive material *per se*.

Descriptive material can be characterized as either "functional descriptive

material" or "nonfunctional descriptive material." Both types of "descriptive material" are

nonstatutory when claimed as descriptive material *per se*, 33 F.3d at 1360, 31 USPQ2d

at 1759. When <u>functional</u> descriptive material is recorded on some computer-readable

medium, it becomes structurally and functionally interrelated to the medium and will be

statutory in most cases since use of technology permits the function of the descriptive

material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d

1031, 1035 (Fed. Cir. 1994)

Merely claiming <u>non</u>functional descriptive material, i.e., abstract ideas, stored on

a computer-readable medium, in a computer, or on an electromagnetic carrier signal,

does not make it statutory. See Diehr, 450 U.S. at 185-86, 209 USPQ at 8 (noting that

the claims for an algorithm in Benson were unpatentable as abstract ideas because

"[t]he sole practical application of the algorithm was in connection with the programming

of a general purpose computer.")

Claim Rejections - 35 USC § 112

9.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

10.   **Claims 1, 2, 4, 8-10, 12-16, 22-24, 26-28, 32 and 33** are rejected under 35

U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and

distinctly claim the subject matter which applicant regards as the invention.

Claim 1 line 15, claim 8 line 2, claim 9 line 2, claim 10 line 2, claim 13 line 15,

claim 14 line 4, claim 15 lines 14-15, claim 22 line 2, claim 23 line 2, claim 24 line 2,

claim 27 line 5, and claim 28 line 4, the phrase "such as" render the claim indefinite

because it is unclear whether the limitation(s) following the phrase are part of the

claimed invention. See MPEP § 2173.05(d).

Claim 1 line 15, claim 4 line 3, claim 8 line 2, claim 10 line 2, claim 13 line 6,

claim 15 line 15, claim 22 line 2, claim 24 line 2, and claim 27 line 6, the phrase "*for*

example" render the claim indefinite because it is unclear whether the limitation(s)

following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim 1, lines 9, 18, 20 and 21; claim 2, line 2; claim 12 line 3; claim 15, lines 5, 17, 19,

and 20; claim 16, line 2; claim 26, line 3; claim 27, line 13; claim 32 line 6; and claim 33 line 7,

recite the limitation "*might*". There is indefinite for this limitation in the claims.

Claim 1 line 17, claim 4 lines 3-4, and claim 15 line 16 recite the limitation "*other*

means". There is indefinite for this limitation in the claims. However, the term "means" is

unclear whether applicant attempts to invoke 35 U.S.C. 112, sixth paragraph, or not. If the

applicant wishes to have the claim limitation treated 35 U.S.C. 112, sixth paragraph, the

applicant must amend the claim(s) to include the phrase "means for" (see M.P.E.P. 2181[R-6]).

Appropriate correction is required.

• *Claim Rejections - 35 USC § 102*

11.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12.   **Claims 1, 2, 4, 5, 8-12, 15, 16, 22-26, 32 and 33** are rejected under 35

U.S.C. 102(b) as being anticipated by Greef et al. (US Pat No. 6,397,221 B1).

As per **claim 1**, Greef et al. discloses "a computerized classification system, comprising the following means:"

"means for organizing entities that have different types," as generating and maintaining the frame-based, hierarchical database from tabularly arranged product data which is simple and easy to use (col. 4 lines 16-18); and see Figs. 3-4.

"means for organizing some or all of said entities in a tree, with parent-child relationships, so that said entities correspond to the nodes of said tree, where it is not necessary that a graphical representation of said tree exists," as creating and or modifying; i.e., managing, the organizational structure and data content of a frame-based, hierarchical product database with the use of tabularly arranged product data (col. 4 lines 37-40); and see Fig. 5.

"means for managing, at least, category-entities and criterion-entities, and optionally also instance-entities," as managing, the organizational structure and data content of a frame-based, hierarchical product database with the use of tabularly arranged product data (col. 4 lines 37-40); and see Figs. 3-4 "wherein:"

"said instance-entities might correspond to objects, concepts, events, characteristics, ideas or other entity type belonging to any realm of reality," as to the collection of personal computer systems pictorially presented in FIG. 1, and tabularly presented in FIG. 2. Particularly, frame-based, hierarchical organization 86 feature a top level frame 88 for the category of personal computers, and two subcategory frames 90, 92 for, respectively, desktop systems and portable systems (col. 12 lines 4-10).

"the purpose of said category-entities is to create different classes to which said instance-entities can be assigned," as creation of a new frame-based, hierarchical organizational structure suitable for receiving the tabular data by either generating an entirely new, original structure where none is available; i.e., exists, or modifying a suitable organizational structure of a database which exists, but which is not to be maintained (col. 4 lines 49-54); and see Figs. 2-5 and 17-19.

"the purpose of said criterion-entities is to create different classification criteria, after which different category-entities can be created," as creation of a new frame-based, hierarchical organizational structure suitable for receiving the tabular data by either generating an entirely new, original structure where none is available; i.e., exists, or modifying a suitable organizational structure of a database which exists, but which is not to be maintained (col. 4 lines 49-54); and see Figs. 2-5 and 17-19.

"wherein said system can be of different types, such as for example one of the following ones:"

"an independent computerized system that comprises a screen and other means," as the method is implemented in computer software and features program steps for enabling a database administrator, or the like, to determine what frame-based, hierarchical organizational structure would be needed to enable importation of tabular product data, the term "product" embracing both goods and or services. More particularly, the method features steps for displaying to the database administrator the tabularly organized product data, and, where available, the organizational structure of an existing frame-based, hierarchical database. Additionally, the method features steps

for enabling the administrator to interactively browse and analyze the displayed tabular

product data, and compare the tabular data with the organizational structure of, frame-

based, hierarchical database, where a frame-based, hierarchical database is available,

i.e., already exists (col. 4 line 55 to col. 5 line 3); and see Fig. 1.

"a computerized system that might not have a screen but which comprises

telecommunication means for the user of the invention to connect with said system, in a

way that in order for said user to establish said connection, said user might use a

second computerized system that might have a screen,"

"a different type of system with different characteristics".

As per **claim 2**, Greef et al. discloses "a system as claimed in claim 1, further

comprising means for showing an arboreal structure that represents said tree, wherein

there might exist different ways to implement said arboreal structure, wherein it is

possible that all of the instance-entities, or only part of them, or none of them, appear in

said arboreal structure," as see Figs. 6-7 "and where it happens that:"

"the instance-entities that appear in said arboreal structure could be represented

as belonging to all the category-entities to which they belong or only to some of them,"

as Basic Systems 288 and 306 in Fig. 4.

"in said arboreal structure, the criterion-entities and the category-entities could

alternate, so that a criterion-entity could be the parent of a category-entity and vice

versa, and a criterion-entity can be parent of other criterion-entities, wherein in such

arboreal structure the category-instances that are child of criterion-instances can have

the same level of indentation or a different level of indentation as said parent criterion-

instances" as FIG. 4 illustrates a plan of modification for organization 86 shown in

dotted lines which includes a proposed new frame level 278 depending from frame 92

for Portable Systems, new frame level 278 having a proposed frame 280 for Laptop

Systems, and a proposed frame 282 for Palmtop Systems. As would be appreciated,

based on the data of table 50, laptop systems of frame 280 would be distinguished from

the palmtop systems of frame 282 at least by virtue of their non-zero Hard Drive

attribute, i.e., laptop system having a Hard Drive attribute value, and palmtop system

not having a Hard Drive attribute value; i.e., no hard drive. And, as would also be

appreciated, laptop system of frame 280 and palmtop system of frame 282 would also

have the common attributes and attribute values from their Portable System parent at

frame 92, particularly, an LCD Display attribute value, and a non-zero Battery Life

attribute value; and, the CPU and RAM attributes from their Personal Computers grand

parent at frame 88 (col. 23 line 53 to col. 24 line 3).

As per **claim 4**, Greef et al. discloses "a system as claimed in claim 2, further

comprising means for emphasizing the criterion-entities with respect to the rest of

entities in said structure, wherein said means could be for example a special text, a

special font type, a special font format, or other means" as in the current illustration, and

as best seen in FIG. 5, organization structure 86 is provided with a product identification

level 310. The tabular model number attribute value for the respective tabular products

would, thereafter, identify the hierarchical frame for the respective products in the

hierarchical organization, again as best seen in FIG. 5. And, in the present illustration,

the tabular product numbers, DT0050, DT0010, DTH040 DTH030, LTA060, LTA020

and PTC070 respectively appear as product frames 312, 314, 316, 318, 320, 322, and

324 of frame level 310 shown in FIG. 5 (col. 27 lines 53-63); and continuing with

reference to FIG. 20, once the "Is A" relationships have been established at step 506,

the program embodying method 500 advances processing to step 510 where generic

definitions for the product attributes are created and associated to the respective

product frames. To accomplish this the program reads the product attributes having

values for all the respective products in table 400, identifies them as generic attributes

and associates them with the respective product frame at product level 446 of structure

434. Accordingly, in the illustration give, and as best seen in FIG. 19, since all products

of table 400 include a value for the attributes Model Number (No.) and Body Color, all

products frames would be assigned the attribute Model Number (No.) and Body Color

and the respective attribute value for the products as shown (col. 32 lines 1-15).

As per **claim 5**, Greef et al. discloses "a system as claimed in claim 2, further

comprising means for showing a summary arboreal structure for the selections that are

performed in the main arboreal structure" as once the record identified at step 246 is

processed at step 248 and 250, the method as shown in FIG. 14 directs program flow

back; i.e., loops, from step 250 over branch 252 to conditional step 240 of general step

116, to determine if there are any other tabular records that are to be imported to

hierarchical frame structure. In the event additional tabular records are to be imported,

the method enables the described sequence to iterate until all the tabular records have

been properly identified, whereupon, the method completes the product-mapping

sequence at branch 242. Once mapping of the tabular products to the hierarchical

frame structure is completed, the method at step 254 displays the results to the user for

approval. At step 254, the user can, as in other review steps, look over the results; i.e.,

product mapping presented, and decide whether those results are acceptable (col. 19

lines 36-51).

As per **claim 8**, Greef et al. discloses "a system as claimed in claim 2, further

comprising means for modifying said tree--such as for example for adding or removing

entities--without requiring to modify the number of controls that exist in the graphical

interface in which said arboreal structure is shown, so that the only modification that is

necessary to make is to modify the set of nodes that exist in said arboreal structure" as

with reference to FIG. 10, general Create or Modify Frame and Frame Level

Organization step 108, is also seen to include more specific steps; particulary, step 172

at which the method enables the user to enter modification to the hierarchical frames

and frame levels; and step 174 at which the method enables the user to modify the

definitions; i.e., names, for the respective frames and frame levels in accordance with

the plan of modification (col. 16 lines 36-43).

As per **claim 9**, Greef et al. discloses "a system as claimed in claim 2, further

comprising means for categorizing instance-entities in such as way that the user adds

an instance-entity in different positions of said arboreal structure and said system

creates a classification for said instance-entity that reflects the category-entities that

appear as parent node of said instance-entity" as continuing, as seen in FIG. 6,

following general Get Information step 102 and its associated specific steps 122 to 144,

the method includes general Display step 104, for displaying the identified tabular data,

and, where designated, the frame-based, hierarchical organization data. As seen in

FIG. 8, Display step 104 itself includes a series of more specific steps. Particularly,

general step 104 is seen to include: Step 146 at which the method presents the

identified tabular data to the user; Conditional step 148 at which the program directs

processing flow over branches 150 or 152, depending on whether the user designated

hierarchical, structural data to be used, which for the current discussing, as noted, is

assumed; i.e., for the current discussion, program flow is considered to advance over

branch 152, to step 154 and; Step 154 at which the method displays the identified

hierarchical structural data. In this regard, the method would provide for display of the

data to the user as one or more screens sequential to the screens at which the user

identified the data (col. 15 lines 34-52); and see Figs. 11-14.

As per **claim 10**, Greef et al. discloses "a system as claimed in claim 1, further

comprising means for modifying said tree--such as for example for adding or removing

entities--without requiring to modify the computer system that manages said tree, so

that the only modification that must be made is modifying the number of records that

exist in the databases where the entities are stored" as noted, general method steps

102 to 120 are themselves comprised of one or more specific steps shown in further

detail in FIGS. 7 to 16. For purposes of illustration, and for ease of description, FIGS. 7

to 16 will be described for the case where an existing database is to be maintained, and

where the user has designated the hierarchical organizational structure of the existing

database as the structure which is to be remodeled in accordance with the method to

generate a modified organizational structure suitable for accommodating importation of

the tabular data designated to maintain the database. As such, the organizational

structure of the existing database constitutes the starting point for the method (col. 14

lines 1-13).

As per **claim 11**, Greef et al. discloses "a system as claimed in claim 1, further

comprising means for identifying the criterion-entities that are complete, incomplete and

neutral, so that the user can assess whether there exist too many selected category-

entities or too few, in order to make a correct categorization of one or more instance-

entities" as FIG. 13 is a flow diagram illustrating the more specific steps associated with

the "Determination of Frame Identification" general step for the first preferred form of the

method in accordance with the invention (col. 6 lines 54-57).

As per **claim 12**, Greef et al. discloses "a system as claimed in claim 1, further

comprising means for performing searches on instance-entities, so that the search

strings are built after one or more category-entities or instance-entities that might have

been selected" as once the record identified at step 246 is processed at step 248 and

250, the method as shown in FIG. 14 directs program flow back; i.e., loops, from step

250 over branch 252 to conditional step 240 of general step 116, to determine if there

are any other tabular records that are to be imported to hierarchical frame structure. In

the event additional tabular records are to be imported, the method enables the

described sequence to iterate until all the tabular records have been properly identified,

whereupon, the method completes the product-mapping sequence at branch 242. Once

mapping of the tabular products to the hierarchical frame structure is completed, the

method at step 254 displays the results to the user for approval. At step 254, the user

can, as in other review steps, look over the results; i.e., product mapping presented,

and decide whether those results are acceptable (col. 19 lines 36-51) wherein tabular

records identified referred as searched entities.

As per **claim 15**, Greef et al. discloses "a computerized method for classifying

entities of different types, comprising the following steps:"

"adding category-entities and criterion-entities to the classification and, optionally,

also adding instance-entities," as creating and or modifying; i.e., managing, the

organizational structure and data content of a frame-based, hierarchical product

database with the use of tabularly arranged product data (col. 4 lines 37-40); and see

Figs. 2-4, 10 and 17-19 "wherein"

"said instance-entities might correspond to objects, concepts, events,

characteristics, ideas or other entity type belonging to any realm of reality," as to

the collection of personal computer systems pictorially presented in FIG. 1, and

tabularly presented in FIG. 2. Particularly, frame-based, hierarchical organization

86 feature a top level frame 88 for the category of personal computers, and two

subcategory frames 90, 92 for, respectively, desktop systems and portable

systems (col. 12 lines 4-10).

"the purpose of said category-entities is to create different classes to

which said instance-entities can be assigned," as creation of a new frame-based,

hierarchical organizational structure suitable for receiving the tabular data by

either generating an entirely new, original structure where none is available; i.e.,

exists, or modifying a suitable organizational structure of a database which

exists, but which is not to be maintained (col. 4 lines 49-54); and see Figs. 2-5

and 17-19.

"the purpose of said criterion-entities is to create different classification

criteria, after which different category-entities can be created," as creation of a

new frame-based, hierarchical organizational structure suitable for receiving the

tabular data by either generating an entirely new, original structure where none is

available; i.e., exists, or modifying a suitable organizational structure of a

database which exists, but which is not to be maintained (col. 4 lines 49-54); and

see Figs. 2-5 and 17-19.

"organizing some or all of said entities in a tree, with parent-child relationships,

so that said entities correspond to the nodes of said tree, where it is not necessary that

a graphical representation of said tree exists," as creating and or modifying; i.e.,

managing, the organizational structure and data content of a frame-based, hierarchical

product database with the use of tabularly arranged product data (col. 4 lines 37-40);

and see Fig. 5 "wherein said method is based on a computerized system that can be of

different types, such as for example one of the following ones:"

"an independent computerized method that comprises a screen and other

means," as the method is implemented in computer software and features program

steps for enabling a database administrator, or the like, to determine what frame-based,

hierarchical organizational structure would be needed to enable importation of tabular

product data, the term "product" embracing both goods and or services. More

particularly, the method features steps for displaying to the database administrator the

tabularly organized product data, and, where available, the organizational structure of

an existing frame-based, hierarchical database. Additionally, the method features steps

for enabling the administrator to interactively browse and analyze the displayed tabular

product data, and compare the tabular data with the organizational structure of, frame-

based, hierarchical database, where a frame-based, hierarchical database is available,

i.e., already exists (col. 4 line 55 to col. 5 line 3); and see Fig. 1.

"a computerized method that might not have a screen but which comprises

telecommunication means for the user of the invention to connect with said method, in a

way that in order for said user to establish said connection, said user might use a

second computerized method that might have a screen,"

"a different type of method with different characteristics".

As per **claim 16**, Greef et al. discloses "a method as claimed in claim 15, further comprising the step of showing an arboreal structure that represents said tree, wherein there might exist different ways to implement said arboreal structure, wherein it is possible that all of the instance-entities, or only part of them, or none of them, appear in said arboreal structure," as see Figs. 6-7 "and where it happens that:"

"the instance-entities that appear in said arboreal structure could be represented as belonging to all the category-entities to which they belong or only to some of them," as Basic Systems 288 and 306 in Fig. 4.

"in said arboreal structure, the criterion-entities and the category-entities could alternate, so that a criterion-entity could be the parent of a category-entity and vice versa, and a criterion-entity can be parent of other criterion-entities, wherein in such arboreal structure the category-instances that are child of criterion-instances can have the same level of indentation or a different level of indentation as said parent criterion-instances" as FIG. 4 illustrates a plan of modification for organization 86 shown in dotted lines which includes a proposed new frame level 278 depending from frame 92 for Portable Systems, new frame level 278 having a proposed frame 280 for Laptop Systems, and a proposed frame 282 for Palmtop Systems. As would be appreciated, based on the data of table 50, laptop systems of frame 280 would be distinguished from the palmtop systems of frame 282 at least by virtue of their non-zero Hard Drive attribute, i.e., laptop system having a Hard Drive attribute value, and palmtop system not having a Hard Drive attribute value; i.e., no hard drive. And, as would also be appreciated, laptop system of frame 280 and palmtop system of frame 282 would also

have the common attributes and attribute values from their Portable System parent at

frame 92, particularly, an LCD Display attribute value, and a non-zero Battery Life

attribute value; and, the CPU and RAM attributes from their Personal Computers grand

parent at frame 88 (col. 23 line 53 to col. 24 line 3).

As per **claim 22**, Greef et al. discloses "a method as claimed in claim 16, further

comprising the step of modifying said tree--such as for example for adding or removing

entities--without requiring to modify the number of controls that exist in the graphical

interface in which said arboreal structure is shown, so that the only modification that is

necessary to make is to modify the set of nodes that exist in said arboreal structure" as

with reference to FIG. 10, general Create or Modify Frame and Frame Level

Organization step 108, is also seen to include more specific steps; particulary, step 172

at which the method enables the user to enter modification to the hierarchical frames

and frame levels; and step 174 at which the method enables the user to modify the

definitions; i.e., names, for the respective frames and frame levels in accordance with

the plan of modification (col. 16 lines 36-43).

As per **claim 23**, Greef et al. discloses "a method as claimed in claim 16, further

comprising the step of categorizing instance-entities in such as way that the user adds

an instance-entity in different positions of said arboreal structure and said system

creates a classification for said instance-entity that reflects the category-entities that

appear as parent node of said instance-entity" as continuing, as seen in FIG. 6,

following general Get Information step 102 and its associated specific steps 122 to 144,

the method includes general Display step 104, for displaying the identified tabular data,

and, where designated, the frame-based, hierarchical organization data. As seen in

FIG. 8, Display step 104 itself includes a series of more specific steps. Particularly,

general step 104 is seen to include: Step 146 at which the method presents the

identified tabular data to the user; Conditional step 148 at which the program directs

processing flow over branches 150 or 152, depending on whether the user designated

hierarchical, structural data to be used, which for the current discussing, as noted, is

assumed; i.e., for the current discussion, program flow is considered to advance over

branch 152, to step 154 and; Step 154 at which the method displays the identified

hierarchical structural data. In this regard, the method would provide for display of the

data to the user as one or more screens sequential to the screens at which the user

identified the data (col. 15 lines 34-52); and see Figs. 11-14.

As per **claim 24**, Greef et al. discloses "a method as claimed in claim 15, further

comprising the step of modifying said tree--such as for example for adding or removing

entities--without requiring to modify the computer method that manages said tree, so

that the only modification that must be made is modifying the number of records that

exist in the databases where the entities are stored" as noted, general method steps

102 to 120 are themselves comprised of one or more specific steps shown in further

detail in FIGS. 7 to 16. For purposes of illustration, and for ease of description, FIGS. 7

to 16 will be described for the case where an existing database is to be maintained, and

where the user has designated the hierarchical organizational structure of the existing

database as the structure which is to be remodeled in accordance with the method to

generate a modified organizational structure suitable for accommodating importation of

the tabular data designated to maintain the database. As such, the organizational

structure of the existing database constitutes the starting point for the method (col. 14

lines 1-13).

As per **claim 25**, Greef et al. discloses "a method as claimed in claim 15, further

comprising the step of categorizing instance-entities, where said step comprises the

following substeps:"

"said classification strings are character strings," as is immediately apparent,

though data may be found in table 50 for reaching the same kinds of system type and

character appraisals that follow directly from visual inspection of the units shown in FIG.

1, those appraisals are not so readily derived when tabularly presented data has to be

used. As experience has shown, use of tabular product data typically requires either

reference to personal knowledge that facilitates integration of tabular product data to a

visual reality the user is familiar with, or, additional classification information; e.g.,

hierarchical category, subcategory information, that organizes the tabular product data

into a framework the user can understand (col. 11 lines 47-58).

"automatically identifying the criterion-entities that are complete, incomplete and

neutral, so that the user can assess whether there exist too many selected category-

entities or too few" as FIG. 13 is a flow diagram illustrating the more specific steps

associated with the "Determination of Frame Identification" general step for the first

preferred form of the method in accordance with the invention (col. 6 lines 54-57).

As per **claim 26**, Greef et al. discloses "a method as claimed in claim 15, further

comprising the step of performing searches on instance-entities, so that the search

strings are built after one or more category-entities or instance-entities that might have

been selected" as once the record identified at step 246 is processed at step 248 and

250, the method as shown in FIG. 14 directs program flow back; i.e., loops, from step

250 over branch 252 to conditional step 240 of general step 116, to determine if there

are any other tabular records that are to be imported to hierarchical frame structure. In

the event additional tabular records are to be imported, the method enables the

described sequence to iterate until all the tabular records have been properly identified,

whereupon, the method completes the product-mapping sequence at branch 242. Once

mapping of the tabular products to the hierarchical frame structure is completed, the

method at step 254 displays the results to the user for approval. At step 254, the user

can, as in other review steps, look over the results; i.e., product mapping presented,

and decide whether those results are acceptable (col. 19 lines 36-51) wherein tabular

records identified referred as searched entities.

As per **claim 32**, Greef et al. discloses "a computer program that, when executed

by one or more processors of a computer, allows said one of more processors to

perform the following steps:"

"creating a classification of entities," as creating and or modifying; i.e., managing, the organizational structure and data content of a frame-based, hierarchical product database with the use of tabularly arranged product data (col. 4 lines 37-40).

"adding category-entities and criterion-entities to the classification and, optionally, also adding instance-entities," as see Figs. 2-4, 10 and 17-19 "wherein"

"said instance-entities might correspond to objects, concepts, events, characteristics, ideas or other entity type belonging to any realm of reality," as to the collection of personal computer systems pictorially presented in FIG. 1, and tabularly presented in FIG. 2. Particularly, frame-based, hierarchical organization 86 feature a top level frame 88 for the category of personal computers, and two subcategory frames 90, 92 for, respectively, desktop systems and portable systems (col. 12 lines 4-10).

"the purpose of said category-entities is to create different classes to which said instance-entities can be assigned," as creation of a new frame-based, hierarchical organizational structure suitable for receiving the tabular data by either generating an entirely new, original structure where none is available; i.e., exists, or modifying a suitable organizational structure of a database which exists, but which is not to be maintained (col. 4 lines 49-54); and see Figs. 2-5 and 17-19.

"the purpose of said criterion-entities is to create different classification criteria, after which different category-entities can be created," as creation of a new frame-based, hierarchical organizational structure suitable for receiving the

tabular data by either generating an entirely new, original structure where none is

available; i.e., exists, or modifying a suitable organizational structure of a

database which exists, but which is not to be maintained (col. 4 lines 49-54); and

see Figs. 2-5 and 17-19.

"organizing some or all of said entities in a tree, with parent-child relationships,

so that said entities correspond to the nodes of said tree, where it is not necessary that

a graphical representation of said tree exists" as creating and or modifying; i.e.,

managing, the organizational structure and data content of a frame-based, hierarchical

product database with the use of tabularly arranged product data (col. 4 lines 37-40);

and see Fig. 5.

As per **claim 33**, Greef et al. discloses "a computer readable medium containing

computer executable instructions that, when interpreted by one or more processors of a

computer, allows said one of more processors to perform the following steps:"

"creating a classification of entities," as creating and or modifying; i.e., managing,

the organizational structure and data content of a frame-based, hierarchical product

database with the use of tabularly arranged product data (col. 4 lines 37-40).

"adding category-entities and criterion-entities to the classification and, optionally,

also adding instance-entities," as see Figs. 2-4, 10 and 17-19 "wherein"

"said instance-entities might correspond to objects, concepts, events,

characteristics, ideas or other entity type belonging to any realm of reality," as to

the collection of personal computer systems pictorially presented in FIG. 1, and

tabularly presented in FIG. 2. Particularly, frame-based, hierarchical organization 86 feature a top level frame 88 for the category of personal computers, and two subcategory frames 90, 92 for, respectively, desktop systems and portable systems (col. 12 lines 4-10).

"the purpose of said category-entities is to create different classes to which said instance-entities can be assigned," as creation of a new frame-based, hierarchical organizational structure suitable for receiving the tabular data by either generating an entirely new, original structure where none is available; i.e., exists, or modifying a suitable organizational structure of a database which exists, but which is not to be maintained (col. 4 lines 49-54); and see Figs. 2-5 and 17-19.

"the purpose of said criterion-entities is to create different classification criteria, after which different category-entities can be created," as creation of a new frame-based, hierarchical organizational structure suitable for receiving the tabular data by either generating an entirely new, original structure where none is available; i.e., exists, or modifying a suitable organizational structure of a database which exists, but which is not to be maintained (col. 4 lines 49-54); and see Figs. 2-5 and 17-19.

"organizing some or all of said entities in a tree, with parent-child relationships, so that said entities correspond to the nodes of said tree, where it is not necessary that a graphical representation of said tree exists" as creating and or modifying; i.e., managing, the organizational structure and data content of a frame-based, hierarchical

product database with the use of tabularly arranged product data (col. 4 lines 37-40);

and see Fig. 5.

Claim Rejections - 35 USC § 103

13.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

14.   **Claims 13, 14, 27 and 28** are rejected under 35 U.S.C. 103(a) as being

unpatentable over Greef et al. in view of Szabo (US Pat No. 6,868,525 B1).

As per **claim 13**, Greef et al. does not explicitly disclose the limitations as recited

in the claim. However, Szabo discloses "a system as claimed in claim 1, further

comprising means for classifying instance-entities by using certain classification strings,

wherein:"

"said classification strings are character strings," as user's query might be

"sports", but user selects the taxonomic node "baseball", or a web page in which the

word "baseball" is prominent; user's query string might profitably be expanded to "sports

AND baseball," or just "baseball," for the purpose of a search of other materials, for

example, through a metasearch procedure of other search engines. By a like procedure,

OR conditions and NOT (dissimilarity) might be appended to user's query, or used to

modify user's query, or replace user's query, to enhance such a follow-on search. Thus, for example, by beginning with a process of directory selection, user gives valuable information that powerfully amplifies and specifies searching outside of that directory (col. 39 lines 3-15).

"said classification strings are characterized by being a concatenation of the codes assigned to said instance-entities," as user's query might be "sports", but user selects the taxonomic node "baseball", or a web page in which the word "baseball" is prominent; user's query string might profitably be expanded to "sports AND baseball," or just "baseball," for the purpose of a search of other materials, for example, through a metasearch procedure of other search engines (col. 39 lines 3-8) "wherein said codes can be of several types, such as for example,"

"codes of the category-entities to which each instance-entity is assigned, codes of the criterion-entities to which said category-entities belong, other types of codes," as in the case of certain other search engines offering taxonomic categories, such as Yahoo.com, the user may, entering a query having large numbers of hits, receive back a list of categories and subcategories from which user may make a selection. For example, if one types in "steel" in the clue box, one is offered a choice of directory topics such as the one that follows: Business and Economy>Companies>Manufacturing>Metal Working>Steel Business and Economy>Companies>Industrial>Suppliers>Materials>Metals Business and Economy>Companies>Construction>Metals>Steel Framing (col. 37 line 66 to col. 38 line 13).

"said classification strings comprise certain separating characters that allow to distinguish where each of the codes starts and ends, with the purpose of eliminating the ambiguity created by the same characters existing in different codes, and" as the tree object also provides a substantial opportunity for the integration of advertising content. The user, in identifying the restrictive search criteria, necessarily reveals an area of interest. To the extent that commercial interests overlap with the expressed area of interest, which are defined by the taxonomic representation, advertisements may be represented as nodes or groups of nodes in the tree (col. 47 lines 37-43); and to obtain a separation of commercial and non-commercial content, the commercial portion of a taxonomy could be identified by an outline, a special color, or other demarcation. Thus, for example, the user may write the sentence in a clue box, "I want to buy a Durango." Using a method presented by this invention, the user may then be presented with a series of zoomed in views of a taxonomic tree, one of which might show, in decreasing levels of generality, 1. autos, 2. US, 3. Chrysler, 4. sports utility vehicles, 5. Durango; in this case, everything below Chrysler may be elaborated commercial content of the taxonomy in the sense just described (col. 47 lines 51-63).

"wherein there exist means for storing said classification strings in a database, so that they can be stored in a single field or in several fields in a disaggregated fashion, and wherein said database can be a relational database or other type of database" as it is also possible for a user to store a preference profile, which may include, for example, taxonomic or heuristic concepts. The database server, therefore, may reference this profile in responding to the query (col. 23 lines 55-59).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to apply Szabo teaching of a graphic representation of a hierarchy

populated with naturally classified objects into Greef et al. system in order to allow the

user to find a similar product to a preferred product. A special feature of this process is

that characteristics of the product or service are mined for, including for example nature

of product, price, quality, warranty features, and service. The user is then asked to rank

or rate the importance of those features that are important to user. A search of

metasearch is then carried out. The user is presented with a selection of similar

products or services (Szabo, col. 18 lines 30-38).

As per **claim 14**, Greef et al. does not explicitly disclose "a system as claimed in

claim 11, further comprising means for searching instance-entities by using said

classification strings, wherein said search is based on finding the instances in whose

classification strings there exist certain sets of characters, for which said means can use

mechanisms such as the expression "LIKE" of SQL (Structured Query Language) or

other similar mechanisms". However, Szabo discloses as a particular aspect of the

present invention is that with an intelligent organization of information, supplemental

information, i.e., information not originally part of the data being organized or displaced

from its proper location within a classification system, may be presented with properly

organized information (col. 17 lines 47-53); and the invention may also provide that

user's choice of a node or nodes within a taxonomic tree provides a useful

discrimination, not only as to indexed materials classified by that taxonomy, but also

relating to other materials not indexed in that, or associated taxonomies, but nevertheless digitally retrievable. This bonus discrimination is preferably implemented by intelligent selection of concepts and keywords from nodes the user selects, or from pages or web resources corresponding to or near those nodes, from which keywords and concepts are extracted, for example by a summarization procedure, which will be used to enhance a user's prior search query or define a new one. Therefore, for example, user's query might be "sports", but user selects the taxonomic node "baseball", or a web page in which the word "baseball" is prominent; user's query string might profitably be expanded to "sports AND baseball," or just "baseball," for the purpose of a search of other materials, for example, through a metasearch procedure of other search engines. By a like procedure, OR conditions and NOT (dissimilarity) might be appended to user's query, or used to modify user's query, or replace user's query, to enhance such a follow-on search. Thus, for example, by beginning with a process of directory selection, user gives valuable information that powerfully amplifies and specifies searching outside of that directory (col. 38 line 58 to col. 39 line 15).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply Szabo teaching of a graphic representation of a hierarchy populated with naturally classified objects into Greef et al. system in order to allow the user to find a similar product to a preferred product. A special feature of this process is that characteristics of the product or service are mined for, including for example nature of product, price, quality, warranty features, and service. The user is then asked to rank or rate the importance of those features that are important to user. A search of

metasearch is then carried out. The user is presented with a selection of similar

products or services (Szabo, col. 18 lines 30-38).

As per **claim 27**, Greef et al. does not explicitly disclose the limitations as recited

in the claim. However, Szabo discloses "a method as claimed in claim 15, further

comprising the step of classifying instance-entities by using certain classification strings,

wherein:"

"said classification strings are character strings," as user's query might be

"sports", but user selects the taxonomic node "baseball", or a web page in which the

word "baseball" is prominent; user's query string might profitably be expanded to "sports

AND baseball," or just "baseball," for the purpose of a search of other materials, for

example, through a metasearch procedure of other search engines. By a like procedure,

OR conditions and NOT (dissimilarity) might be appended to user's query, or used to

modify user's query, or replace user's query, to enhance such a follow-on search. Thus,

for example, by beginning with a process of directory selection, user gives valuable

information that powerfully amplifies and specifies searching outside of that directory

(col. 39 lines 3-15).

"said classification strings are characterized by being a concatenation of the

codes assigned to said instance-entities," as user's query might be "sports", but user

selects the taxonomic node "baseball", or a web page in which the word "baseball" is

prominent; user's query string might profitably be expanded to "sports AND baseball," or

just "baseball," for the purpose of a search of other materials, for example, through a

metasearch procedure of other search engines (col. 39 lines 3-8) "wherein said codes

can be of several types, such as for example,"

> "codes of the category-entities to which each instance-entity is assigned,
>
> codes of the criterion-entities to which said category-entities belong, other types
>
> of codes," as in the case of certain other search engines offering taxonomic
>
> categories, such as Yahoo.com, the user may, entering a query having large
>
> numbers of hits, receive back a list of categories and subcategories from which
>
> user may make a selection. For example, if one types in "steel" in the clue box,
>
> one is offered a choice of directory topics such as the one that follows:
>
> Business and Economy>Companies>Manufacturing>Metal Working>Steel
>
> Business and Economy>Companies>Industrial>Suppliers>Materials>Metals
>
> Business and Economy>Companies>Construction>Metals>Steel Framing (col.
>
> 37 line 66 to col. 38 line 13).

"said classification strings comprise certain separating characters that allow to

distinguish where each of the codes starts and ends, with the purpose of eliminating the

ambiguity created by the same characters existing in different codes, and" as the tree

object also provides a substantial opportunity for the integration of advertising content.

The user, in identifying the restrictive search criteria, necessarily reveals an area of

interest. To the extent that commercial interests overlap with the expressed area of

interest, which are defined by the taxonomic representation, advertisements may be

represented as nodes or groups of nodes in the tree (col. 47 lines 37-43); and to obtain

a separation of commercial and non-commercial content, the commercial portion of a

taxonomy could be identified by an outline, a special color, or other demarcation. Thus,

for example, the user may write the sentence in a clue box, "I want to buy a Durango."

Using a method presented by this invention, the user may then be presented with a

series of zoomed in views of a taxonomic tree, one of which might show, in decreasing

levels of generality, 1. autos, 2. US, 3. Chrysler, 4. sports utility vehicles, 5. Durango; in

this case, everything below Chrysler may be elaborated commercial content of the

taxonomy in the sense just described (col. 47 lines 51-63).

"wherein said classification strings might be stored in a database, so that they

can be stored in a single field or in several fields in a disaggregated fashion, and

wherein said database can be a relational database or other type of database" as it is

also possible for a user to store a preference profile, which may include, for example,

taxonomic or heuristic concepts. The database server, therefore, may reference this

profile in responding to the query (col. 23 lines 55-59).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to apply Szabo teaching of a graphic representation of a hierarchy

populated with naturally classified objects into Greef et al. system in order to allow the

user to find a similar product to a preferred product. A special feature of this process is

that characteristics of the product or service are mined for, including for example nature

of product, price, quality, warranty features, and service. The user is then asked to rank

or rate the importance of those features that are important to user. A search of

metasearch is then carried out. The user is presented with a selection of similar

products or services (Szabo, col. 18 lines 30-38).

As per **claim 28**, Greef et al. does not explicitly disclose "a method as claimed in

claim 27, further comprising the step of searching instance-entities by using said

classification strings, wherein said search is based on finding the instances in whose

classification strings there exist certain sets of characters, for which said means can use

mechanisms such as the expression "LIKE" of SQL (Structured Query Language) or

other similar mechanisms". However, Szabo discloses as a particular aspect of the

present invention is that with an intelligent organization of information, supplemental

information, i.e., information not originally part of the data being organized or displaced

from its proper location within a classification system, may be presented with properly

organized information (col. 17 lines 47-53); and the invention may also provide that

user's choice of a node or nodes within a taxonomic tree provides a useful

discrimination, not only as to indexed materials classified by that taxonomy, but also

relating to other materials not indexed in that, or associated taxonomies, but

nevertheless digitally retrievable. This bonus discrimination is preferably implemented

by intelligent selection of concepts and keywords from nodes the user selects, or from

pages or web resources corresponding to or near those nodes, from which keywords

and concepts are extracted, for example by a summarization procedure, which will be

used to enhance a user's prior search query or define a new one. Therefore, for

example, user's query might be "sports", but user selects the taxonomic node

"baseball", or a web page in which the word "baseball" is prominent; user's query string

might profitably be expanded to "sports AND baseball," or just "baseball," for the

purpose of a search of other materials, for example, through a metasearch procedure of other search engines. By a like procedure, OR conditions and NOT (dissimilarity) might be appended to user's query, or used to modify user's query, or replace user's query, to enhance such a follow-on search. Thus, for example, by beginning with a process of directory selection, user gives valuable information that powerfully amplifies and specifies searching outside of that directory (col. 38 line 58 to col. 39 line 15).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply Szabo teaching of a graphic representation of a hierarchy populated with naturally classified objects into Greef et al. system in order to allow the user to find a similar product to a preferred product. A special feature of this process is that characteristics of the product or service are mined for, including for example nature of product, price, quality, warranty features, and service. The user is then asked to rank or rate the importance of those features that are important to user. A search of metasearch is then carried out. The user is presented with a selection of similar products or services (Szabo, col. 18 lines 30-38).

Conclusion

15.   The following prior art made of record on form PTO-892 and not relied upon is cited to establish the level of skill in the applicant's art and those arts considered reasonably pertinent to applicant's disclosure. See **MPEP 707.059(c)**.

US-5,696,916 A

US-5,838,965 A

US-5,953,724 A

US-6,055,515 A

US-6,240,410 B1

US-2002/0107893 A1

US-2004/0162838 A1

US-2005/0065955 A1

US-2005/0289168 A1

16.   The examiner requests, in response to this Office Action, support is shown for
language added to any original claims on amendment and any new claims. That is,
indicate support for newly added claim language by specifically pointing to page(s) and
line number(s) in the specification and/or drawing figure(s). This will assist the
examiner in prosecuting the application.

17.   When responding to this Office Action, applicant is advised to clearly point out
the patentable novelty which he or she thinks the claims present, in view of the state of
the art disclosed by the references cited or the objections made. He or she must also
show how the amendments avoid such references or objections See 37 CFR 1.111(c).

Contact Information

18.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Bai D. Vu whose telephone number is 571-270-1751.

The examiner can normally be reached on Mon - Fri 7:30 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Christian Chace can be reached on 571-272-4190. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Bai Vu

12/12/2007

cy

CHRISTIAN CHACE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100